

NOV 19 1918

ARNOLD ARBORETUM

HARVARD UNIVERSITY

BULLETIN
OF
POPULAR INFORMATION

JAMAICA PLAIN, MASS.

OCTOBER 18, 1918

The Red or Scarlet Maple (*Acer rubrum*). The flowers of the Red Maple are red on some individuals and on others pale yellow, trees with flowers of these two colors growing together over a large part of the region inhabited by this tree. On some trees the autumn leaves are of different shades of red or scarlet and on others clear yellow. If any reader of these Bulletins has noticed if the autumn color of the leaves of trees with red flowers is red and that of trees with yellow flowers is yellow the Arboretum will be glad to hear from him on the subject. On the left-hand side of the Meadow Road not far from the Jamaica Plain entrance and opposite the Administration Building there is a Red Maple with unusually dark crimson autumn leaves. This tree is interesting from the exceptionally beautiful color of the leaves at this season and from the fact that it is a grafted tree raised to show the possibility of propagating trees exceptional in the color of their autumn foliage. This branch of arboriculture has not been much practised, but when it is realized that the leaves on some individual trees or shrubs of a species assume more brilliant colors than those of other individuals of the same species, that this peculiarity is constant from year to year and that it can be preserved and multiplied by grafting, there is no reason why a demand for trees with exceptionally beautiful autumn leaves should not make possible the supply, just as the demand for trees of abnormal habit or with abnormal foliage, like a Mulberry with pendulous branches or a Beech with purple leaves, has created the supply,

Mountain Ashes. Many of these trees are now growing well in the Arboretum, and some of them are unusually full of fruit this year and handsome and interesting objects. Mountain Ashes have leaves divided into numerous narrow leaflets, compact clusters of white flowers which are followed by scarlet, yellow, orange-colored, pink or white, usually globose fruit which varies from a quarter to three-quarters of an inch in diameter. The best known and most commonly planted of these trees in the United States is the European *Sorbus Aucuparia*, the Rowan tree of Scotland. It is a tree from forty to sixty feet tall, of pyramidal habit while young, with erect branches which as the tree grows older spread out into a broad and graceful head. Here the leaves retain their color until the autumn is far advanced, and during September and October the contrast between the bright green leaves and the drooping clusters of brilliant red fruit makes this tree an attractive object until the birds strip it of its fruit. This Mountain Ash is common and widely distributed over the cooler parts of Europe and was probably early introduced into North America where it has been much planted in the extreme northern states and in Canada. Several varieties are recognized. The handsomest of these is the Moravian Mountain Ash (var. *moravica* or *dulcis*) of northern Austria. This is a tall tree with a smooth stem, leaves with narrower leaflets than those of the type and larger and sweeter fruit. It is used as food in central Europe. This Mountain Ash has grown in the Arboretum very rapidly and promises to become a large tree. Two specimens in the plantation near the top of Peter's Hill are now covered with fruit and are among the handsomest of the small trees in the Arboretum. There are forms of the Rowan tree with pendulous branches (var. *pendula*) and with fastigate branches (var. *fastigiata*). There is a form with yellow fruit and a variety from eastern Europe (var. *lanuginosa*) the leaves of which are covered on the upper surface with stiff hairs and are downy on the lower surface.

Asiatic Mountain Ashes. In recent years a number of these trees have been brought from eastern Asia to the Arboretum and some of them promise to be valuable trees here. The Japanese *Sorbus commixta* was the first of them which was planted here and it has now been growing in the Arboretum since 1888. There is a tall specimen of this species on the right-hand side of the path leading to the Shrub Collection from the Forest Hills Gate. It has smaller flower-clusters than the European species, the bright red fruit is smaller and its chief value is in the bright orange and red color of the leaves in autumn. A much handsomer plant is *Sorbus pekinensis*, a native of northern China, which is now well established in the Arboretum. It is a slender tree with narrow leaflets, compact clusters of flowers and lustrous pink or yellowish fruit in drooping clusters. The color of the fruit is unusual among Mountain Ashes. The narrow leaflets give this tree a particularly open and attractive appearance. There are a number of specimens in the Sorbus Collection in the low ground near the group of Swamp White Oaks on the Valley Road, but the largest and handsomest spec-

imen in the Arboretum is in the nursery plantation near the top of Peter's Hill. *Sorbus Koehneana* has flowered and fruited in the Arboretum this year for the first time. It is a shrub now about three feet high with slender erect stems, small leaves with numerous narrow leaflets, small compact clusters of flowers, and snow-white fruit. It is a beautiful shrub which when better known will become common in gardens. The plants in the Arboretum were raised from seeds collected by William Purdom in northern Shensi. *Sorbus pohnuashanensis*, so named because it was discovered on the Pohnu Mountains in northern China, is also well established in the Arboretum. The leaflets are rather broader than those of the Rowan tree, but it has the red fruit and woolly buds of that species and is not superior to it for general cultivation. Although they are not as large and shapely trees as some of the Old World species, the two Mountain Ashes of eastern North America, *Sorbus americana* and its variety *decora*, have no rivals in this group in the beauty of the great drooping clusters of orange fruit and in the orange and red tints of their autumn foliage. They are small trees or large shrubs and are often planted in gardens in Canada, northern Michigan and Minnesota, but unfortunately are still little known in those of eastern Massachusetts.

Sorbus alnifolia of the section *Micromeles* of the genus is perhaps the most satisfactory of the Mountain Ashes with entire leaves which can be grown here. It is a common Japanese tree and occurs also in Korea and northern and central China, and sometimes in its native countries grows to the height of sixty feet. Several specimens have been growing in the Arboretum since 1893 and are now from twenty to thirty feet tall. These trees are pyramidal in habit with pale smooth stems, upright branches which form a broad compact symmetrical pyramidal head, and dark green leaves three or four inches long, small white flowers in six- to twelve-flowered clusters, and abundant lustrous scarlet or scarlet and orange fruit which remains on the branches after the leaves and until eaten by birds which are fond of the fruit of all the species of *Sorbus*. The leaves turn bright clear yellow about the middle of October and soon fall.

Mountain Ashes thrive only in well-drained rich soil and suffer from drought and insufficient nourishment. They are particularly liable to the attacks of the San José scale, and in order to secure healthy plants it is important to spray them late in March or early in April with lime-sulphur.

The Spindle-tree or Burning Bush. By these names some of the species of *Evonymus* are popularly known. *Evonymus* is a genus of shrubs or small trees widely distributed over the temperate regions of the northern hemisphere and more abundant in species in eastern Asia than in North America or Europe. As a garden plant the species with deciduous leaves are chiefly valuable for their showy fruits, although the leaves of some of the Asiatic species become bright colored in the autumn. The flowers of all the species are inconspicuous. The fruit is a scarlet, red or whitish capsule, which when it opens displays

the seeds enclosed in a bright orange, scarlet or pink fleshy covering or aril. In the last issue of these Bulletins the autumn beauty of the Japanese *E. alatus* was referred to. Another species with leaves conspicuous at this season is *E. Maackii* from the Amoor region of eastern Siberia. This is a large, round-topped shrub, the oldest specimen in the collection being now eight or ten feet tall and twelve or fifteen feet across the head. The leaves are narrow, pointed at the ends, drooping, and early in October are dull red on the upper surface and pale green on the lower surface. The fruit is produced in great quantities and is rose color and half an inch in diameter, and the seeds are bright orange-scarlet and very lustrous. Although the leaves of the Japanese *E. yeddoensis* do not turn as brilliantly as those of some of the other Asiatic species and fall early, this round-topped shrub is one of the handsomest of the group when it is covered with its large, rose-colored capsules which remain on the branches long after the leaves fall. *E. Bungeanus*, a small tree from northern China, is an old inhabitant of the Arboretum, and every year it is conspicuous when its pale yellow fruit opens and the rose-colored seeds appear and the narrow drooping leaves turn pale yellow.

The European species, although they retain their green leaves until after the scarlet capsules open, are less ornamental plants here than some of the Asiatic species. The best known of the European species, *E. europaeus*, the English Spindle-tree, is a narrow tree which sometimes grows in this country to the height of twenty feet and is handsome in the autumn when the dark green leaves make a good background for the scarlet fruit. There is a variety with white capsules of no great ornamental value. On a form of this tree raised here from seeds sent from Hungary the leaves at this season become dark purple on the upper surface but remain green on the lower surface. The variety *ovata* which came to the Arboretum from a German nursery has broader leaves and larger fruit than the common form and promises to be a good ornamental plant here. *Evonymus latifolius* is another European species rather than a tree. The leaves are broader and the fruit is larger than that of the Spindle-tree. The fruit, unfortunately, is not produced as abundantly as that of most of the other species. *E. atropurpureus*, the Burning Bush of the United States, is a small tree which grows naturally from western New York to Montana and to Florida and Texas. The leaves turn yellow in the autumn some time before the crimson fruit falls. This tree is hardy in Massachusetts but has never taken very kindly to cultivation in the Arboretum. The Strawberry Bush, *E. americanus*, is a straggling shrub with slender semiprostrate stems and fruit covered with prickles. It is a common plant in the United States from New York southward, but has never found itself really at home in the Arboretum. *E. ovatus* is another American species with prickly and tuberculate fruit, and is a low shrub with prostrate stems. This species is valuable for covering the ground in the shade of larger plants where it grows vigorously; when exposed to the full sun it suffers here from the exposure.